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ABSTRACT

Interviews were conducted with 15 first-year students at the National Technical Institute for the Deaf at Rochester Institute of Technology, concerning their academic and social experiences in mainstreamed high schools. It was learned that respondents encountered such challenges to their academic success as teachers who were unaware of or unresponsive to the needs of deaf learners and difficulties associated with group discussion and team projects. The students used a variety of formal and informal strategies to meet these challenges, including professional support services, networking with hearing students, informing teachers of their special needs, and staying after class for help. Some students appeared more skilled than others at assessing the academic environment and using the full range of formal and informal supports available to them. The quality of social interaction experienced by respondents in the mainstreamed high school varied widely. Some felt they enjoyed a good social life, participating in sports and social activities, while others felt lonely and left out. These data suggest that social mainstreaming may be more difficult to achieve than academic mainstreaming. Recommendations for program development are provided. (JDD)

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Life in the Mainstream: Reflections of Deaf College Freshmen on their Experiences in the Mainstreamed High School

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ABSTRACT

The purpose of this study was to learn about mainstreaming from the perspective of the deaf mainstreamed person. In depth, open-ended interviews were conducted with 15 first-year students at the National Technical Institute for the Deaf at Rochester Institute of Technology (NTID at RIT). Interview topics included classroom experiences, interactions with teachers, participation in school activities, and relationships with other students.

It was learned that respondents encountered challenges to their academic success in the mainstreamed class, ranging from teachers who were unaware of or unresponsive to the needs of deaf learners to difficulties associated with group discussion and team projects. They used a variety of formal and informal strategies to meet these challenges, including professional support services, networking with hearing students, informing teachers of their special needs, and staying after class for help. Additionally, some students appeared more skilled than others at assessing the academic environment and using the full range of formal and informal supports available to them.

The quality of social interaction experienced by respondents in the mainstreamed high school varied widely. Some felt they enjoyed a good social life, participating in sports and social activities. Others felt lonely and left out. These data suggest that social mainstreaming may be more difficult to achieve than academic mainstreaming, since the deaf student is frequently on his or her own when attempting to initiate or sustain relationships with peers.

Recommendations for program development include seminars for deaf students, their teachers and classmates designed to build an awareness of the needs of deaf students in the mainstream, with practical strategies for facilitating participation in informal classroom discussions as well as social interactions outside of class.

INTRODUCTION

The enactment of Public Law 94-142 is intended to insure the right of every disabled student to an education in the "least restrictive environment"--which is often interpreted to mean "in a regular classroom in the public school." In response to this legislation, support services have been developed by school administrators and personnel in an effort to provide students in the mainstream with an appropriate educational experience.

In the wake of these trends, questions are being asked about whether or not mainstreaming has been successful. In general, research has found that students in mainstreamed programs tend to have better academic achievements than their peers in special programs (Kluwin and Moores, 1985; Mertens, in press). However, the concern has been raised that students in the mainstream may be gaining academic advantages while losing ground in the areas of personal and social growth. For example, Reich, Hamleton and Houldin (1977) studied the effects of mainstreaming over time. They found that integrated students did better than their peers in self-contained classes in areas of academic and language achievement. On the other hand, they also found that the social adjustment and self concept scores of integrated students declined over time. As a result, they conclude that while mainstreaming is beneficial to the development of academic and language skills, personal and social problems may increase.

Similarly, Farrugia and Austin (1980) compared students in residential schools with peers in self-contained classes, and found that the latter had lower self-concepts. Their application of Garreston's (1977) "unwritten curriculum" to their findings is particularly noteworthy. This term describes a variety of informal interactions which routinely occur between students in school, such as conversations on the bus and in the halls, and participation in extracurricular activities. Their data suggest that deaf students enrolled in mainstream programs have fewer opportunities to engage in these kinds of informal interactions than do their peers in residential schools for the deaf.

Other researchers, who have found more generally positive results in their studies of the social and emotional adjustment of deaf students in the mainstream, temper their

conclusions with caution. In this vein, Ladd, Munson, and Miller (1984) studied the effects of mainstreaming over time and found that deaf students were able to develop "integrated friendships" with hearing peers. However, they also learned through interviews with parents and teachers that many of these deaf students had little or no contact with hearing friends outside of school, a finding which led them to question the depth and quality of these friendships.

Still other studies have focused on social interaction within the classroom. Mertens and Kluwin (1986), for example, examined several variables in an effort to describe differences in the educational process within mainstreamed and self-contained classes. It is significant that trained observers recorded no interaction between deaf and hearing students in the 51 mainstreamed class periods they observed, which led them to conclude that "the espoused goal of mainstreaming to encourage interaction between hearing impaired and normally hearing students was not achieved in the observed classrooms."

Questions are also being raised about whether or not integration, per se, can account for differences in academic achievement of deaf students. For example, Allen and Osborn (1984) have studied the characteristics of students in different kinds of programs and conclude that integration status alone accounts for only a small proportion of the achivement variance. Studies by Kluwin and Moores (1985) and Mertens and Kluwin (1986) suggest that other factors which are not intrinsic to the mainstreamed class, including exposure to demanding course content and the training of teachers in academic content areas, may account for differences in achievement.

Most of these studies involve the application of quantifiable measures of academic and social development to deaf students, including psychometric evaluations and structured questionnaires or interviews. Additionally, they tend to evaluate the effects of mainstreaming from the perspective of the professionals--that is, teachers, counselors, and administrators. There is less research which examines the impact of mainstreaming from the perspective of the deaf student, or which uses an unstructured, open-ended approach to the collection of data. A recent study by Mertens (1986) included open-ended written responses by mainstreamed deaf students as well as a follow-up discussion of responses. Her findings indicate that residential school students are more positive about their high school experiences than

their peers from the mainstream. In her discussion of findings, she concludes that "the pain expressed by the students in the mainstream settings cannot be ignored," and calls for further research "to document the nature of the social experiences of hearing-impaired high school youth with a larger and more representative sample."

Similarly, Foster (1987) used unstructured field research to learn about the experiences of deaf students in mainstreamed and residential programs. This study involved interviews with 25 college graduates, who were asked to reflect on their experiences in school. It was learned that, while the respondents from mainstreamed programs were proud of their achievements in the integrated school, they often paid a high "price" for this experience, including frustration with communication difficulties, additional out-of-class study, and isolation and loneliness.

While the Foster (1987) study did not meet Merten's suggested criteria of a larger and more representative sample, it does add to the growing body of data collected through first-hand individual accounts. In fact, it may be that by meeting such criteria, the richness of personal descriptive data would be lost, since data of this sort is collected primarily through qualitative field research methods, including lengthy, open-ended interviews and participant observation (Bogdan and Taylor, 1975; Spradley, 1979). The number of subjects in such studies is necessarily small, and it is not always possible to select subjects at random or to ensure a representative sample.

In this project, in-depth, open-ended interviews were used to learn about the mainstream school experiences of a group of deaf people. The study shares many of the limitations of the Mertens (1986) and Foster (1987) studies. The number of people interviewed is small (15). Since all respondents are college students, their comments about high school are retrospective and reflect the opinions of a group which is not representative of the range or level of education of deaf people nationally. On the other hand, the data provide a detailed description of the school experience from the perspective and in the words of the deaf person and as such illuminate aspects of mainstreaming not amenable to study through the more structured statistical methods.

Interview respondents were 15 first-year college students at the National Technical Institute for the Deaf at Rochester Institute of Techology (NTID at RIT), all of whom

had attended mainstreamed high schools. Of the 15 subjects, 4 are men and 11, women, and the average age is 19.3 years. While some of the respondents' comments draw on elementary and junior high school experiences, most reflect experiences in high school. Of the 15, 13 said they attended only mainstreamed classes; one went to a "special class" for English, and another attended both self-contained and mainstreamed classes. Three had attended a school for the deaf prior to entry into the mainstreamed program.

The goal of this study was to learn about mainstreaming from the perspective of the deaf mainstreamed person, and to present the experiences of respondents in their own words. The interviews were unstructured and open-ended. Respondents were asked to describe their experiences in school. Topics of discussion included classroom experiences, relationships with teachers, participation in school activities, and relationships with other students. Respondents were encouraged to describe their experiences in detail, giving examples wherever possible. With the permission of the respondent, interviews were voiced (by the student or a certified interpreter) and recorded. Transcripts from interviews were coded and analyzed for recurring patterns and themes.[1]

FINDINGS

The findings are presented in two sections, dealing with (1) academic and (2) social experiences in the mainstreamed school.

Academic Experiences

Almost all the respondents experienced obstacles to academic success in mainstreamed classes due to their deafness. These obstacles ranged from a lack of basic support services to teachers who were unaware of or unresponsive to the needs of deaf learners. Only one person said she never experienced any difficulties. Some class activities were especially difficult for the deaf student. For example, one man described his discomfort with group work and other activities requiring interaction between students in class:

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[1]*For more on analysis of qualitative research data, see Bogdan and Biklen (1982), "Chapter Five: Data Analysis," pp. 145-170.*

Respondent: "*For some classes, I really enjoyed being with hearing students. Sometimes I didn't feel comfortable.*"
Interviewer: "*What made you feel uncomfortable?*"
Respondent: "*Like, for example, sometimes I can't understand what other people in class are trying to tell me. If the teacher puts us in a group to find our partner, I don't know who the people are.*"

There were few formal support services. Five said they had interpreters for one or more classes. While in general the interpreter service was viewed by these respondents as essential for their academic success, there were instances in which the service was a mixed blessing. For example, students who in the past had struggled to follow class discussion without an interpreter quickly became dependent on the service for class participation and interaction. As a result, they would sit things out when the interpreter was unable to attend the class, as illustrated in the following quotation:

Respondent: "*Last year, I paid attention [in high] school because of my interpreter... But when she wasn't there, I'd just sit back and do nothing.*"

Even when they were present, interpreters were not always able to facilitate student participation in class. In the following illustration, a respondent describes his difficulty in communication with hearing peers. Even the presence of the interpreter could not completely alleviate the discomfort experienced by this person:

Respondent: "*... Often I had trouble communicating with hearing people--hard to understand hearing people--makes me very nervous. Every day I'd go in the lab. [I'd] get really nervous if there's a tutor in the class with the hearing and I'm the only one deaf. Even with an interpreter, I'm still shaky... It was hard.*"

While interpreters are clearly an important ingredient of a comprehensive support services program for deaf learners, there may also be drawbacks or limitations to the role of interpreters in classroom instruction and interaction.

Respondents described other kinds of formal support services available to them. For example, five said they had access to a resource room or special teacher who would offer tutoring and other kinds of additional attention or support. They used these services as a supplement to classroom instruction, reviewing difficult assignments or getting clarification of a particularly complex topic. Six respondents had notetakers. Usually the notetaker was another student, who would put carbon paper under his notes to make a copy for the deaf student. Sometimes the notes were incomplete or poorly written, which caused the deaf student frustration and a sense of vulnerability when preparing for tests. However, most respondents found this service helpful, especially in combination with other support services. In the following quotation a woman describes the benefits of having a notetaker as well as an interpreter in class:

> *Interviewer:* "*In high school you had an interpreter and a notetaker?*"
> *Respondent:* "*Yes.*"
> *Interviewer:* "*Was it better with the support?*"
> *Respondent:* "*Oh, yes... I found out that I could learn more by just watching the interpreter. I don't take notes because if I take [notes and try to watch] the teacher at the same time, then I FAIL, FAIL, FAIL! I can't understand what's going on. It goes over my head [and] it's too fast. But with the notetaking out of the way, I don't have to worry about the notes. I just watch the interpreter and I get everything that the teacher is saying. Those notes help [me] to remember what the interpreter said, so then I learn more.*"

Respondents used a variety of informal strategies to supplement formal support services. The most frequently mentioned informal strategy involved getting extra help from the teacher. Not all teachers were responsive to the needs of the deaf student. However, most were willing to review materials with them after class. Many respondents recalled one or two teachers who went out of their way to help them. They felt these teachers had a big influence on them and made a significant contribution to their academic progress. The following quotation is illustrative of the range of teacher involvement experienced by respondents:

Respondent: "*Some teachers won't talk to me, they're shy. They're afraid they won't understand me or I won't understand them...*"

Interviewer: "*How do you feel about those teachers that were afraid to talk to you?*"

Respondent: "*... Every time I see them--at church or store, they always say "Hi" and that's it. I'd like to stop and talk but it's not comfortable to them because they're shy. I don't know... maybe they're embarrassed. They like me, but they're shy. I wish they could talk more... But I have one teacher--she's really cool, I like her a lot. She learned sign and we talked a lot... I'd come see her after school. She was my favorite teacher.*"

Some respondents asked hearing friends for help with homework, studying, and review of classroom discussion. Sometimes these interactions were grounded in an already established friendship with a hearing student. In other cases, the request for academic assistance led to social interaction, as illustrated by the following quotation:

Respondent: "*One time in the first year in high school, I was so scared, ohhh, I didn't know what was going on. So I told my... homeroom teacher, "I don't understand everything--the schedule and all this stuff--rooms, classes..." So the teacher told me which way to go, [said to go] with an interpreter and just take my time, learn how and what I'm doing with the hearing people... I feel I prefer being with the deaf... but... I was trying to speak with hearing people, I felt it was important to me. Finally, about three hearing people in my computer class. Most of the time I didn't understand that kind of work--word processing--and my interpreter wasn't here, and no deaf student with me in my class, just be by myself. Teacher wasn't good at explaining to me, or the other hearing students either. And I was mad at the teacher because he said "Read, read" but that's a little hard for the deaf to read... high level language. So I asked the hearing people, "Can you help me and show me how to do that?" And they said, "OK." They explained about the*

computer and I learned. I said, "Thank you. Now I can do it myself..." And then I didn't understand again and again. I'd ask the hearing people. Then my counselor told me, "You're the first deaf person who's asked the hearing to help you." I said, "Oh, I didn't know that." I felt good. That's why I think I can do it. And after that, that's what I did. I just asked people, "Can I borrow your notebook? Can I borrow your pencil, etc., etc." And that's how I learned to interact. Hearing people asked me, "Do you want to go out to lunch?" I accept and go out to lunch."

Several respondents identified other factors which facilitated their accommodation in the mainstreamed school. For example, one man, who transferred from a school for the deaf to a mainstreamed school when he entered junior high, described his first two years in the mainstream as "really hard." However, he added that "by the time I went into high school, I was ready... I knew what I was doing and I had my friends..." Another said he was able to communicate with hearing classmates "because I'm famliar with them." Apparently, time and the development of stable relationships can be helpful to the successful accommodation of the deaf student in a mainstreamed school.

Most of the time respondents used a combination of formal and informal strategies to succeed academically at school. Therefore, one skill which may be basic to the accommodation and achievement of deaf students in mainstreamed settings is the ability to assess the educational environment and determine which strategies to use and when to use them. The following examples are illustrative of the ways in which the respondents in this study aproached this task:

Respondent: "In high school, it was very difficult to understand the teacher, but I did well. I could follow my teacher and my classmates. If I had trouble with the teacher or students, I'd go to the tutoring room and get extra help."

Respondent: "I had someone take notes for me... with a carbon paper underneath. When we did paperwork in class, I always came back to the teacher and had him explain to me what they

did in class today. Always, I always check with the teacher about homework, to make sure that I don't miss it. Also, I have friends' phone numbers, a list of phone numbers, so I don't have a problem. I call my friends and say, "I don't understand the homework. Explain to me." They always are happy to do that."

Respondent: "I really got along fine [in high school]... I didn't have a notetaker service. I wanted to be able to learn my notes and stuff. I would sometimes have to lip read them [teachers]. Sometimes I wouldn't have all the notes... and I tried extra hard to be as good as the others in my school work. Actually, I learned a lot from that."
Interviewer: "How did you make up for that? I know it's hard, you can't be lipreading and taking notes."
Respondent: "Sometimes I talk to my friends and asked them. Sometimes I took their notes and went into the office and copied them. Lots of time I went and talked to the teacher if I didn't understand or if I miss something, and I know I didn't understand it and missed it. [Then] I would go in and talk to the teacher and the teachers were all very understanding. They were willing to help me, and actually I did pretty well."

Respondent: "...The first day of school I went in, the teacher didn't know I was deaf. After class, I went up to the teacher to explain that I was deaf and that I can read lips... [but that] I can't look around to faces all around. Then the teacher was so happy to know that I was deaf and all that stuff. I was helping them to help me. [But] sometimes they would forget that I was deaf. They would look at the board and write and talk. Ooooh! [sound of exasperation] If I have a problem at the end of the class, I would come up to the teacher and ask, "What is the homework What do I do for the test? [Was there] some kind of important news during the class?"

Underlying all their comments is the idea that success in the mainstreamed classroom is possible, but that it carries a high price tag--requiring additional effort, time, and the dependency on others (friends, tutors, interpreters, and teachers). In the following section, the experiences of deaf mainstreamed students outside the classroom are presented, with a special focus on relationships between the deaf student and his or her hearing peers.

Social Experiences

Respondents were asked to talk about the social life in high school. Their responses varied. Six people said they had a good social life, participating in clubs and sports activities. They said they had friends among the hearing students and attended parties and other school social events. One woman described her interactions with hearing peers as follows:

> *Respondent:* "*We did a lot. We did homework together, we studied together, we pick on the teachers... I really enjoyed myself, I loved it.*"

Another noted the importance of communication, and especially a willingness to communicate, which were central to her friendships with hearing students:

> *Interviewer:* "*Did you have any good friends with the hearing kids?*"
> *Respondent:* "*Yes, I had a few good friends, because they try to learn sign language.*"

Other respondents admitted to difficulties with communication and interaction in the mainstreamed school but felt the benefits of being in the "hearing world" outweighed the disadvantages. For example, one person said that she felt "behind in the news" because she couldn't keep up with all the school gossip, but added that "it was a great experience being with hearing people." Another said, "I must say I'm happy I went through [a mainstreamed] high school... I learned more about hearing people and experiences--it was interesting." Some felt it was important to learn how to communicate with hearing people. Others emphasized the quality of education in mainstreamed schools, which they felt was superior to that in schools for the deaf.

One man, who transferred to the mainstreamed school from a school for the deaf, described his reasons for the transfer as follows:

> *Respondent:* "*I'm sick of being with deaf people after twelve years. Gonna try it with the hearing people. Get more experience with hearing people... [Later on, same topic] deaf are a little bit hard to understand what's going on. Do you know what I mean? Going out with the deaf--they don't know what the meanings are--do you know what I mean?*"
> *Interviewer:* "*Can you give me an example?*"
> *Respondent:* "*Well, suppose I'm talking about something [but] the deaf don't understand what that means... [since] my experience with hearing, I feel I understand a lot more than [the] deaf. [We] work closely with each other; try my best for my speech, my voice, to the hearing people. Never give up. I told them, "Try. Tell me if you don't understand. I'll tell it again and again and now you'll understand my voice."*"

Five respondents described specific problems with social interactions in high school. They felt lonely or left out, frustrated because they were unable to communicate with their hearing peers. Sometimes, they would begin a relationship only to have it fail when the hearing person lost interest. From the comments of these people, it would seem that the interest expressed by the hearing students stemmed more from a curiosity about deafness than a genuine desire for friendship or a sustained relationship. The following quotations are illustrative:

> *Interviewer:* "*Tell me about your interactions with the hearing students.*"
> *Respondent:* "*Some hearing people were very interested in my background of deafness. I joined with them for a short time. After a while they get tired of it... I just accept that and go up to different people. That happened a lot to me before.*"
> *Interviewer:* "*How do you feel when that happens? When they go away, how do you feel about that?*"

Respondent: "*I feel lonely. I think they should not go away. Not talking very long, it is successful for a while, but just a little bit.*"

Interviewer: "*What was your social life like in high school?*"
Respondent: "*Like at lunch or something, I never know what the conversation was about. I got frustrated a lot and cried a lot... I could not understand the people and it was hard to talk to them... I didn't really care for high school that much... I had a hard time trying to make friends and... that made it hard.*"

Even when communication occurred, there was sometimes a distinction between routine communication, routine friendship, and "good" friends, as illustrated by the following comment:

Respondent: "*I have a lot of hearing friends, but I don't have many good friends. I still have a lot of trouble communicating with the hearing people.*"
Interviewer: "*Good friends--what is involved in good friends?*"
Respondent: "*... Good friends, they really know me, they know sign language. They always communicate with me in sign. Others, they just talk with me and it is verbal and I don't always understand.*"

Respondents described strategies which helped them overcome or otherwise manage difficult social situations. For example, time helped some people adjust socially to the mainstreamed setting. Four respondents described improvements in their social interactions within the public school which occurred over time. In the following excerpt, a woman discusses how her feelings about the mainstreamed setting changed over time:

Respondent: "*When I was first mainstreamed, I didn't know anyone. I didn't know how to communicate with hearing people. I never had much experience. I was so lonely. Seventh grade--it was my worst year... I was very shy, that is why.*

Eighth grade, I started improving a little. Still I was shy. Ninth grade was no problem--more people know me and they learn more about my deafness and how to communicate with me and I felt better."

Sometimes, routine school activities provided the deaf student with opportunities to interact wtih hearing students. Participation in sports activities and asking other students for classroom help are two examples of "ice breakers" used by respondents. Other people met peers through extracurricular clubs. Sometimes an older hearing sibling would help the student meet people and adjust to the public school. One woman attributed her success within the educational mainstream to the fact that she had always lived in the same small town and attended the local school. As she put it, "that's why I got along very well--everybody knew me, everybody knew about me, everybody knew who I was."

Sometimes a special event would break the ice for the deaf student. In the following excerpt, a respondent describes his senior class trip:

Respondent: "One time they had the senior trip and hearing people wanted me to go... They said, "C'mon." I said, "No." [Then I said] "OK, I'll think about it." I told my father. My father said "You gonna go on the senior trip?" I said, "Yeah. What's wrong with that?" He said, "Never mind." So he paid me the money and I went on the senior trip. I was scared with hearing people. [But]... I got more and more new friends. It felt great. It was wonderful. I was talking to everybody, had fun. Hearing people didn't mind that I was deaf. I went along with them just fine--talking, talking about all the girls and all that."

A woman, who had adjusted to the mainstreamed school with difficulty, described the important role played by a support group of other deaf students from mainstreamed schools. She started this group herself, in response to her own sense of isolation, as well as the needs expressed by some of her deaf friends attending other mainstreamed programs. She said that it was very helpful to learn that she was not the only one who was experiencing difficulties in the mainstream:

Respondent: "*When we first started, we discussed how we felt. I was very surprised to hear that many deaf people don't like to be mainstreamed.*"
Interviewer: "*Why not?*"
Respondent: "*Because it is hard to understand the hearing people. The hearing people aren't ready to accept the deaf. They don't know how to communicate with the deaf... They don't have many hearing friends. I was surprised because many members of the group are very popular with other deaf people... but in the hearing high school, they don't have many friends. I thought I was the only one. I kept my feelings to myself, but when I heard all the other people, I let my feelings out. We find that we have many things in common in the frustrations... [for example] Like if I want to try to communicate with the hearing people, my voice sounds funny. I am very awkward and shy. I have good speech, but sometimes it sounds funny. Hearing people look at me and kind of walk off to their friends and I feel bad. The same thing happens with other members of the group. We try to talk to hearing people, but they turn us off... They have their own world, they don't want to get involved with the deaf world.*"

In summary, the quality of social interaction available to these deaf students in the mainstream varied widely. Some felt they were included in a variety of meaningful activities and relationships, ranging from participation in clubs and sports activities to individual friendships with hearing peers. Others felt isolated and lonely in the mainstream or limited to superficial conversations and interactions. Clearly, the development of meaningful social interactions in the mainstream is a complex and difficult process, presenting special challenges to both the deaf student and those who would modify the social environment to accommodate the deaf student.

DISCUSSION

For the respondents in this study, experiences in the mainstreamed school varied widely. In this section, the findings are discussed as they relate to the academic and

social dimensions of mainstreaming. Additionally, recommendations for program development and future research are made.

Academic Dimensions of Mainstreaming

The people in this study encountered a range of obstacles and challenges to their academic success in the mainstreamed class, ranging from teachers who were unaware of or unresponsive to the needs of deaf learners to difficulties associated with group discussion and team projects. They used a variety of formal and informal strategies to meet these challenges, including professional support services, networking with other students, informing teachers of their special needs, and staying after class for extra help. Some students appeared more skilled than others at assessing the academic environment and using the full range of formal and informal supports available to them.

A review of these data indicate that, while there is a formal dimension to classroom instruction, there is also a less clearly defined but equally important informal dimension to learning. Formal dimensions include course content, pedagogy, instructional materials, and work assignments. Informal dimensions include individual as well as small group interactions with teachers, support staff and classmates for purposes of discussion, team work, and out-of-class study or information sharing. Most traditional support services are designed to provide deaf students access to the formal dimensions of classroom instruction. These services are less successful in facilitating the kinds of interactions prerequisite to informal instruction. More often, respondents used other kinds of strategies to access informal learning networks and relationships, with varying success.

It is recommended that future research examine more closely the informal dimensions of learning in an effort to identify those strategies which are the most successful. In addition, studies should focus on those characteristics of individual students which facilitate their ability to develop and use these informal strategies.

Recommendations for program development include seminars for teachers and hearing classmates of deaf students which are designed to build an awareness of the needs of deaf students, with practical ideas for how to facilitate informal classroom learning. Deaf students in the mainstream would probably also benefit from this

kind of seminar, particularly if it offered them strategies for such tasks as developing learning networks with classmates and assessing the educational environment.

Social Dimensions of Mainstreaming

The respondents in this study wanted to participate in the social life of their school for a variety of reasons and purposes. Some felt they "learned more" by being around hearing people. Others felt they would continue to improve their communication skills through interactions with hearing people. Most, however, wanted to participate for the same reasons as their hearing classmates--that is, they wanted to "belong," to be a part of things.

Several respondents felt they succeeded in achieving this goal. They joined clubs and sports teams, went to parties, and had hearing friends. Others settled for a trade--they had a less than satisfactory social life, but received a good education and exposure to the "hearing world" in return. For some, however, the mainstreamed school was a place of social isolation and loneliness, where friendships were shallow and communication difficult.

It may be that social mainstreaming is even more difficult to achieve than academic mainstreaming. This would make sense, since the kinds of activities involved in social interaction are even more challenging than those described in the previous section as prerequisite for informal learning. A skilled interpreter can provide the deaf student with clear information. A sensitive teacher can structure class activities which facilitate class participation for the deaf student. However, neither the interpreter nor the teacher can effectively faciltitate conversations in the hallway or interactions in the cafeteria. In these environments, deaf students are on their own and must rely on their self-confidence, skill, and judgment. Further studies are recommended which examine social interactions between deaf and hearing students in greater depth, in an effort to determine which environments are the most conducive to interaction as well as which strategies work best.

Once again, recommendations for program development include seminars and instructional materials designed to "raise the consciousness" of hearing students about the needs of their deaf classmates. However, given the central role of the deaf person in initiating social interaction, it is essential that program development

include materials designed to provide deaf students with practical strategies for "breaking the ice."

Finally, it should be noted that this study is exploratory and is intended as a vehicle for discussion. In particular, it raises questions about the "costs" of mainstreaming for deaf students. The students in this study often paid a price for attending the mainstreamed school. Most often the cost was in the areas of informal class participation and social interaction. One of the greatest challenges facing those who work with deaf students in the mainstream is to reduce this social isolation in order to enable deaf students to participate fully in all social and academic activities in school.

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